

**LINOART™ LINOLEUM
GRANETTE™ TILE
INSTALLATION/MAINTENANCE TIP SHEET
Patent Pending**

| GAUGE | SIZE | ADHESIVE |
|--------------------|---|------------------------------------|
| 0.080 in. (2.0 mm) | 24 in. x 24 in. (610 mm x 610 mm) 12 in. X 24 in. (305 mm x 610 mm) 12 in. x 12 in. (305 mm x 305 mm) | Armstrong® S-780 Linoleum Adhesive |

INSTALLATION

TYPES OF SUBFLOORS

- Concrete (All Grade Levels)
- Polymeric Poured (seamless) Floors
- Approved Suspended Wood
- Ceramic Tile, Terrazzo, Marble
- Existing Resilient Floors
- Aluminum, Brass, Copper, Lead, Stainless Steel and Steel

INSTALLATION SYSTEM

Granette™ Linoleum Tile Installation System

FITTING

Free hand knifing and straight scribing methods

ADHESIVE

Armstrong® S-780 Linoleum Adhesive

**KEYS TO A SUCCESSFUL
INSTALLATION**

- Linoleum tile is packaged with a protective sheet within the carton. Linoleum tile should remain in the carton until ready for installation.
- Proper conditioning of both the jobsite and the flooring is necessary. Linoleum tile products should not be exposed to sudden changes in temperature or moisture/humidity.
- Allow flooring to condition to room temperature 48 hours before starting the installation.
- Temperature of the room shall be maintained at a minimum of 65° F (18° C) and a maximum of 100° F (38° C) for 48 hours prior to installation, during installation, and for 48 hours after completion.
- Linoleum tile must be installed into S-780 Linoleum Adhesive immediately over porous substrates and after 5 minutes open time over non porous substrates.
- All linoleum tiles may be intermixed for various designs.
- Store all cartons flat, never on edge, to prevent distortion.
- Protect the floor from foot traffic for 24 hours and rolling load traffic for 72 hours after final installation steps are completed.
- Tile cartons should have the same batch number and be installed in numerical order.

JOB CONDITIONS

- Moisture tests must be conducted. Armstrong offers a guideline of a maximum acceptable Calcium Chloride moisture emission level of 5 lbs./1000 ft.² per 24 hours or Insitu Probe RH 85%. Bond tests should also be conducted for compatibility with the substrate.
- The pH of concrete should be between 5 and 9.
- Remove any existing adhesive residue so that 100% of the overall area of the original substrate is exposed.
- Use only Portland cement-based patching and leveling compounds such as Armstrong® S-183 Fast-Setting Cement-Based Underlayment, Armstrong S-184 Fast-Setting Cement-Based Patch and Skim Coat, Armstrong S-194 Patch, Underlayment & Embossing Leveler.
- Tiles may be installed linear, quarter turned or inter-mixed sizes.
- Do not expose newly installed flooring to rolling load traffic for at least 72 hours after installation to allow setting and drying of the adhesive.

For more detailed information on job conditions and subfloor preparation, refer to the Armstrong Guaranteed Installation Systems booklet, F-5061, or visit floorexpert.com.

WARNING: EXISTING IN-PLACE RESILIENT FLOOR COVERING AND ASPHALTIC ADHESIVES. DO NOT SAND, DRY SWEEP, DRY SCRAPE, DRILL, SAW, BEADBLAST, OR MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC “CUTBACK” ADHESIVE, OR OTHER ADHESIVE.

These existing in-place products may contain asbestos fibers and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the existing in-place product is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content and may govern removal and disposal of material.

See current edition of the Resilient Floor Covering Institute (RFCI) publication Recommended Work Practices for Removal of Resilient Floor Coverings for instructions on removing all resilient floor covering structures or contact your distributor or Armstrong World Industries, Inc. 1 800 233 3823.

PREPARATION – ADHESIVE OPEN TIME AND TROWEL NOTCHINGS

Adhesive Porous Nonporous

- S-780 Open Time Porous substrates: install tile immediately, Porous and Non Porous substrates: 1/16 in. V-Notch Trowel. Do not apply more adhesive than can be covered in approximately 20 minutes.
- The amount of working time will vary according to job conditions (temperature, humidity, airflow and type of substrate).
- To ensure proper bonding to the substrate, Granette™ linoleum tile must be placed into the adhesive while it is still wet. Any adhesive that has skinned over or dried must be removed and replaced with fresh adhesive.

TILE INSTALLATION

1. Where possible, plan layout so tile joints are 6 in. from any joint in the substrate.
2. Center and square off the room by measuring and snapping chalk lines dividing the room into quarters or equal quadrants.
3. Move the chalk lines to within 2 to 3 ft. on the walls farthest to the door.
4. Adjust the chalk lines to keep the border tile size one-half the original tile size or more. Snap chalk lines on the subfloor where the last full-field tile will fall. **Dry fit border tile before applying adhesive.**
5. Apply S-780 Linoleum Adhesive up to but not covering the chalk lines.
6. Tiles must be placed into the adhesive while it is still wet. See **PREPARATION - ADHESIVE OPEN TIME AND TROWEL NOTCHINGS** section for open times. Apply only enough adhesive in a given area so that the tiles may be installed into wet adhesive. **Any adhesive that has skinned over or dried must be removed and replaced with fresh adhesive.**
7. Install the first two rows of the field tile first, up to and along the chalk line, to ensure the tiles are positioned precisely along the chalk line.
8. If necessary, use masking tape to tape diagonally across the tile joints to help lock the tile into place and to help close any openings in the tile joints.
9. Tiles placed in wet adhesive should be rolled immediately in both directions with a 100-lb roller.
10. Any adhesive on the face of the tile should be removed immediately using a clean, white cloth dampened with a neutral detergent and water.
11. Install the remaining rows of tile following Steps 4 through 10.
12. Do not work on top of the tile while adhesive is still wet. If necessary, the use of kneeling boards may be used to work on top of newly installed tile.
13. Do not expose newly installed flooring to rolling load traffic for at least 72 hours after installation to allow for drying and setting of the adhesive.

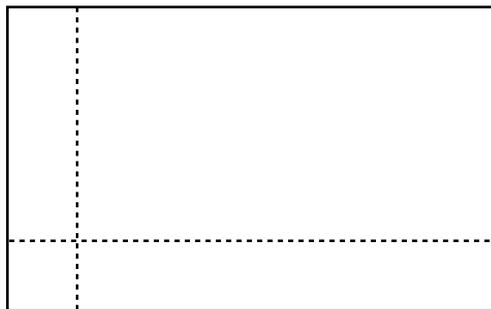


Fig. 1

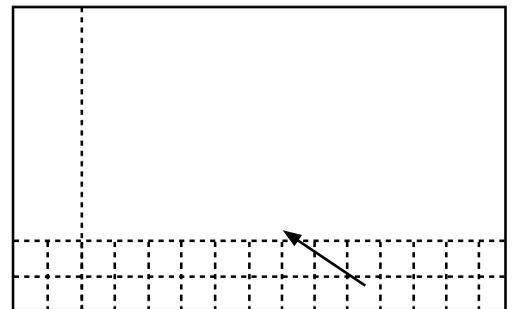


Fig. 2

S-780 Adhesive

MAINTENANCE

Following are general guidelines for maintaining Armstrong LinoArt™ Linoleum Sheet and Tile with NATURcote™ II commercial flooring products. They are based on general experience using established methods and cleaning materials. It is important that these guidelines are read carefully as the product offers the end user maintenance options. Ultimately, the local site conditions will determine what specific maintenance procedures and frequencies are needed. It is the responsibility of the maintenance provider to establish the maintenance program(s) that meet the demands of the space(s) and needs of the facility.

All resilient floor coverings require maintenance. How frequently the floors must be maintained depends largely on the factors described below. Following regular and well-planned maintenance programs protects the floor by reducing wear, preserves the floor's attractive appearance and ultimately increases its service life.

HOW TO DETERMINE/ TAILOR A MAINTENANCE PROGRAM

Before establishing a maintenance program, there are a number of factors which must be considered in order to determine the most appropriate, cost-effective methods to use. It is critical that the maintenance methods for each floor and area be chosen only after careful evaluation and regard to the following:

TYPE OF FLOORING

It is important to know the type floor before cleaning. Rubber or linoleum could be confused with vinyl or luxury vinyl tile (LVT) could be confused with wood or laminate.

RESOURCES/EQUIPMENT/ CHEMICALS/PERSONNEL/ BUDGET

- Are well-trained maintenance personnel available?
- Are the appropriate pieces of equipment (scrubbers, buffers, mops, pads, etc.) available?
- Are the appropriate chemicals available?
- What is the budget?

END USER'S EXPECTATIONS

- What is the desired gloss (high or low gloss)?
- What is considered an acceptable level of appearance by the owner, customers, staff or end-user?

TYPE OF FACILITY & LOCATION OF FLOORING

Entryways, lobbies and pivot-point areas may require more protection and more frequent cleaning than lower traffic areas in other parts or upper levels of the building.

VOLUME AND TYPE OF TRAFFIC AND SOIL

Traffic types and volumes in entryways and corridors will vary greatly from those found at nurse's stations or in examination rooms. Dirt and grit carried in from the outside can differ significantly from the soils and chemical spills found in a laboratory or emergency room.

SPECIAL TRAFFIC/ FOOTWEAR

Areas subjected to frequent rolling loads provide a different environment than a children's play area or corridor in an elementary school.

COLOR/DESIGN OF FLOORING

Color and pattern can have a significant impact on a floor's appearance and, when properly chosen, may help mask soiling and staining. Mid-tones are better choices than light or dark colors. Busier/high contrast patterns will hide better than solid/monolithic ones.

LINOART™ LINOLEUM SHEET AND TILE WITH NATURCOTE™ II

MARMORETTE™ | RHYTHMICS™ | GRANETTE™ | COLORETTE™ | LINORETTE™

Armstrong® linoleum sheet and tile products are manufactured with NATURCote™ II, a protective, high performance urethane finish that provides improved maintenance characteristics and maintenance options for the end-user.

FOR BEST RESULTS

- Do not wet wash, machine scrub or strip the floor for at least five days after installation. This is to prevent excess moisture from interfering with the adhesive bond and/or seam treatments.
- Use a proper walk-off mat program to control and reduce the amount of loose grit and soil coming into the building.
- Proper selection and care of furniture rests (feet, glides and casters) is important in the maintenance and appearance retention of all types of floor coverings. Protect the flooring from damage by using high-quality, non-staining protective rests for chairs, tables and other furniture, fixtures and equipment.
- When performing wet maintenance, always use proper signage and prohibit traffic until the floor is completely dry.
- Maintenance solutions used on linoleum should not exceed a pH of 10. The use of highly alkaline solutions may permanently damage linoleum. Abrasive powders and cleansers should not be used on linoleum.
- Do not flood the floor or use excessive amounts of liquid during maintenance.
- Do not use brown or black pads, equivalent brushes or stiff-bristled, highly abrasive brushes on Armstrong resilient flooring.
- On heat welded seams apply a thin, even application of a commercially available, high-quality multi-purpose top coating such as Mohawk Ultra Bond Waterborne Clear Finish Marker (Satin or Matte Finish). When using the No Polish Option, it may be necessary to periodically recoat the welded seam.
- If it becomes necessary to move any heavy fixtures or appliances over the flooring on casters or dollies, the flooring should be protected with 1/4 in. or thicker plywood, hardboard or other underlayment panels. If other on-site work is continuing, consider using a protective covering such as plain, undyed kraft paper to guard against damage to the new floor.

PREVENTATIVE MAINTENANCE

Controlling grit and soil is crucial to prolonging the attractive appearance of any floor. Grit or soil is any material—including dirt, stones, sand and clay—that is deposited onto the floor by normal commercial traffic. The best way to control grit is by using appropriate walk-off mats.

Recommended walk-off mats should:

- Have a high-friction, open surface design to knock grit particles from the bottoms of shoes and then trap the particles.
- Be used at every entrance, inside and outside, should be at least as wide as the doorway and 8 to 12 ft. long.
- Have a backing that won't stain the floor.
- Be cleaned regularly, vacuumed, shaken and/or hosed off frequently.

While walk-off mats will retain a substantial amount of this grit and soil, some will still find its way into the building. Regular vacuuming, sweeping and dust-mopping will help to further control this type of grit.

Furniture Rests (feet, glides, casters, etc.)

Proper selection and care of furniture rests is important in the maintenance and appearance retention of all types of floor coverings. Following are some guidelines to consider:

- The contact area should be large enough to distribute the load evenly, without damaging the floor.
- The contact area should be smooth, flat to provide full contact and free of small protrusions, irregularities, roughness, depressions, mold lines, embedded dirt, grit, etc.
- All edges should be slightly rounded to prevent damage if briefly turned on edge.
- Rests should be manufactured from non-staining materials.
- Rests should be properly maintained. Worn, damaged and missing furniture rests should be replaced.
- Furniture, appliances, equipment, etc. should be properly leveled so that all rests are fully and firmly on the floor at all times.

A. Initial Maintenance and Preparation for Commercial Traffic

1. Sweep, dust mop or vacuum the floor thoroughly to remove all loose dust, dirt, grit and debris.
2. Remove any dried adhesive residue with a clean, white cloth dampened with mineral spirits, carefully following warnings on the container.

MAINTENANCE OPTIONS

Recognizing that end users prefer maintenance options, these products may be maintained using any of the procedures described below. Having completed Steps 1 and 2 under Initial Maintenance, choose a maintenance option based on your evaluation of the factors listed under “How to Determine Your Maintenance Program” and proceed as directed below.

1. Polish Option

- After completing Steps 1 and 2 under Initial Maintenance, scrub the floor using a rotary machine or auto scrubber with a properly diluted neutral detergent solution (pH 6 to 8), such as Armstrong S-485 Commercial Floor Cleaner and a scrubbing pad (aggressiveness equivalent to 3M™ blue pad or equal). This will promote polish adhesion.
- Thoroughly rinse the entire floor with fresh, clean water. Remove rinse water and allow the floor to dry completely.
- Apply 3 to 5 coats of high-quality commercial floor polish such as Armstrong S-480 Commercial Floor Polish. In areas where the flooring will be exposed to heavy traffic and/or staining agents, the application of a stain resistant sealer such as Armstrong S-495 Commercial Floor Sealer, prior to the application of polish, is recommended.

2. No Polish - Spray Buff Option

- After completing Steps 1 and 2 under Initial Maintenance, scrub the floor using a rotary machine or auto scrubber with a properly diluted neutral detergent solution (pH 6 to 8), such as Armstrong S-485 Commercial Floor Cleaner and a scrubbing pad (aggressiveness equivalent to 3M™ blue pad or equal).
- Thoroughly rinse the entire floor with fresh, clean water. Remove rinse water and allow the floor to dry completely.
- Spray buff using a rotary machine (175 to 1000 rpm) with the appropriate pad and spray buff solution. This may be followed by dry buffing with a white pad.

3. No Polish - No Buff Option

- After completing Steps 1 and 2 under Initial Maintenance, scrub the floor using a rotary machine or auto scrubber with a properly diluted neutral detergent solution (pH 6 to 8), such as Armstrong S-485 Commercial Floor Cleaner and a scrubbing pad (aggressiveness equivalent to 3M™ red pad or equal)
- Thoroughly rinse the entire floor with fresh, clean water. Remove rinse water and allow floor to dry completely.

Your Armstrong linoleum flooring is now ready for commercial traffic.

B. Daily / Regular Maintenance

1. Sweep, dust mop or vacuum the floor daily to remove dust, dirt, grit and debris that can damage the floor and become ground into the surface.
2. Spot mop as needed. Any spills should be cleaned up immediately.
3. Damp mopping of the floor should be performed on a regular or daily basis, depending upon traffic and soil levels in the area. Use a properly diluted neutral detergent solution (pH 6 to 8) such as Armstrong S-485 Commercial Floor Cleaner.

C. Periodic Maintenance

1. When needed, machine scrub the floor with a properly diluted neutral detergent solution (pH 6 to 8) such as Armstrong S-485 Commercial Floor Cleaner and the appropriate scrubbing pad (3M™ red or equal for light scrub, 3M™ blue or equal for a deep scrub) or equivalent brush.
2. Thoroughly rinse the entire floor with fresh, clean water. Remove rinse water and allow the floor to dry completely.
3. Based on the selected maintenance option in Section A above, do one of the following:
 - If maintaining with the **Polish Option** and a sufficient base (3 to 5 coats) of polish remains, buff, spray-buff or burnish to restore gloss. If needed, additional coats of floor polish may be applied at this time
 - If maintaining with the **Spray Buff Option**, spray buff using a rotary machine (175 to 1000 rpm) with the appropriate pad and spray buff solution. This may be followed by dry buffing with a white pad.
 - If maintaining with the **No Buff Option**, periodic maintenance is complete.

NOTE: For the above Polish and Spray Buff options, at some point it may become necessary to remove polish build-up by stripping the floor. The use of high-quality maintenance products such as Armstrong commercial floor care products and adherence to a well-planned maintenance program will greatly reduce the need for stripping. Should stripping become necessary, follow the procedures outlined below.

RESTORATIVE MAINTENANCE - STRIPPING

NOTE: Use only stripping chemicals designed for use on linoleum (10 pH or less)

1. Mix stripping solution to the appropriate dilution, depending on floor finish build-up. Blockade areas to be stripped. Apply liberal amounts of solution uniformly on floor with mop. Let stripping solution soak for the appropriate amount of time recommended by the stripper manufacturer. Keep areas to be stripped wet. Rewet if necessary.
2. Machine scrub the floor (300 rpm or less) with a scrubbing pad (3M™ blue or equal) or equivalent scrub brush to break up the polish film. **Do not allow stripping solution to dry on the floor.**
3. Remove dirty stripping solution with a wet vacuum or mop. **TIP: Drizzling fresh, clean rinse water onto the dirty stripping solution will assist with more thorough removal.**
4. Thoroughly rinse the entire floor with fresh, clean water. Remove rinse water and allow the floor to dry completely.
5. Based on the selected maintenance option in Section A above, do one of the following:
 - If maintaining with the **Polish Option** apply 3 to 5 coats of high-quality commercial floor polish such as Armstrong S-480 Commercial Floor Polish.
 - If maintaining with the **Spray Buff Option**, spray buff using a rotary machine (175 to 1000 rpm) with the appropriate pad and spray buff solution. This may be followed by dry buffing with a white pad.

LINOLEUM COLOR CHANGE

“Drying room yellowing” sometimes referred to as “seasoning bloom,” “drying room film” or “stove yellowing” is a natural phenomenon that occurs during the manufacturing process of all linoleum. As linoleum cures in the drying room, a yellowish cast may develop on the surface due to the oxidation of the linseed oil. This is not a product defect. Any change in the product's appearance because of this yellow cast is temporary and disappears after exposure to either natural or artificial light. The time required for the yellow cast to disappear ranges from a few hours to several weeks, depending on the type and intensity of the light source. Typically, the yellow cast disappears more quickly with exposure to natural light. The application of floor finishes will not interfere with the dissipation of the yellow cast. Disappearance of the yellow cast will not occur on areas not exposed to light.